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ABSTRACT

The Wake County Public School System (WCPSS) (North Carolina) first introduced year-round education in 1989. By 1994, the program had expanded to seven elementary and middle schools. Of the seven current year-round schools, six have solely voluntary magnet enrollment and operate on a multi-track system. The other is a single-track year-round school defined by an attendance area, although parents can request a transfer in or out of the school. Evaluation of the voluntary, multi-track schools reported here has been based on academic achievement, student attendance, and staff and parent attitudes. Findings from 3 years of evaluation indicate that the voluntary, multi-track schools are at least as effective as schools on a traditional calendar, and that they appear to produce more positive student, staff, and parent outcomes in some areas. Student achievement at a multi-track school is generally above the WCPSS average and is at expected levels relative to similar students in other schools. Attendance at the multi-track schools is higher than the system average, and staff and parent attitudes are positive and higher than system elementary school averages. The data available indicate that creating more voluntary year-round magnet schools is a cost-effective way to serve more students. Two attachments present some responses of staff and parents to the evaluation surveys. (Contains nine figures.) (SLD)

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ARE WCPSS MULTI-TRACK ELEMENTARY SCHOOLS EFFECTIVE?

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Evaluation & Research Department
Wake County Public School System
E&R Report No. 96E.03
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Evaluation and Research Department — *E&R Report No. 96E.03*
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Authors: Bethany Prohm and Nancy Baenen

MULTI-TRACK SCHOOLS: EFFECTIVENESS SUMMARY

Voluntary, multi-track, year-round elementary schools generally appear to be at least as effective as schools on a traditional calendar. On some comparisons, multi-track schools appear to produce more positive student, staff, and parent outcomes.

- Generally, student achievement at multi-track schools is above the WCPSS average and at expected levels relative to achievement of similar students at other schools in the system.
- Attendance at multi-track schools is higher than the system average.
- Staff and parent attitudes at multi-track schools are positive and higher than system elementary averages.

Based on the data currently available, creating more voluntary year-round magnets has clear support as a cost-effective way to serve more students.

BACKGROUND

The Wake County Public School System (WCPSS) first introduced year-round education in 1989 at Kingswood Elementary School. The Kingswood program moved to Morrisville Elementary School for the 1991-92 school year. In 1992-93, Durant Road, West Lake, and Wilburn Elementary Schools and West Lake Middle School started as year-round programs. Durant Road incorporated a year-round middle school for the 1993-94 school year. In 1994, Oak Grove Elementary joined the school system as a year-round school. Thus, the program has expanded from one to seven schools.

Supporters of year-round education have suggested it is an attractive option because:

- It provides continuous education (i.e., shorter breaks) so students do not forget material during a long summer break;
- The three-week breaks make it easier to offer enrichment opportunities and remedial help for students during the school year;
- Teachers have planning time throughout the school year when it is needed most;
- It improves student attendance and lessens teacher and student burnout; and
- Parents have different scheduling opportunities for vacations.

In addition, year-round schools have helped WCPSS relieve overcrowding.

Currently, all year-round schools in Wake County operate using the 45-15 day schedule (nine weeks in school, three weeks out of school). Students in year-round schools receive the same number of instructional days (180) as students in traditional schools. Of the seven current year-round schools, six have solely voluntary magnet enrollment and operate on a multi-track system. This enables the schools to have 75% of the student population in school while the other 25% is on break, thus allowing the schools to serve up to 33% more students. Wilburn Elementary School, on the other hand, converted from a traditional school calendar to a single-track year-round schedule. The student body at Wilburn is defined by an attendance zone, although parents can request a transfer in or out of the school.

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EVALUATION OVERVIEW

WCPSS must consider whether to expand year-round programs to new or existing schools. Analyzing the effectiveness of current year-round schools can help in this decision-making process by addressing two questions:

- Do students in multi-track schools show achievement and attendance that are at least equal to or higher than those in traditional schools?
- Are the parents and staff of multi-track schools as satisfied with their schools as those in traditional schools?

This report will address these questions for the voluntary, multi-track schools started in 1992-93 or earlier (Morrisville, Durant Road, and West Lake). Three years of data concerning year-round student achievement, student attendance, and staff and parent attitudes toward school will be analyzed and compared to data from traditional calendar elementary schools. The single-track, year-round school (Wilburn) will be analyzed in a separate publication due to inherent differences from multi-track schools, such as the nature of the student bodies and the new buildings and voluntary enrollment in multi-track schools. (Wilburn is an older facility converted to year-round.)

SCHOOL CHARACTERISTICS FOR 1994-95

Reviewing school characteristics provides context for the type of student bodies enrolled in multi-track schools compared to the average for all elementary schools in WCPSS. These characteristics include free and reduced-price lunch eligibility, special programs enrollment, and racial composition.

Compared to all elementary schools (92% of which use traditional calendars), the multi-track schools generally *had a lower percentage of students eligible for free and reduced-price lunch, a higher percentage of students enrolled in special programs, a higher percentage of White students, and a lower percentage of Black students.* (See Figure 1.)

Figure 1. Student Characteristics in 1994-95 Expressed as Percentages

School	Race			F/R Lunch	In Special Programs (not AG)
	White	Black	Other		
All Elementary Schools	**69.4**	**26.0**	**4.6**	**25**	**10.4**
Durant Road Elementary	79.2	17.6	3.2	11	12.8
Morrisville Elementary	86.7	8.8	4.4	6	15.8
West Lake Elementary	88.8	9.9	1.3	7	12.3

This pattern and these percentages were almost identical to those of 1993-94.

EOG RESULTS

Results on the End-of-Grade (EOG) tests are useful in providing data on year-round school achievement. EOG scores classify students in one of four levels. Students performing at Level III or Level IV demonstrate consistent mastery of grade-level subject matter and skills and are considered to be well prepared for the next grade level.

Compared to the spring 1995 average for elementary schools, multi-track schools generally had *a higher percentage of students scoring at Level III or Level IV on the reading and math sections of the EOG test*. (See Figures 2 and 3.)

Figure 2. Percentage of Students Scoring at Level III or Level IV on the Reading Section of the EOG for Spring 1995

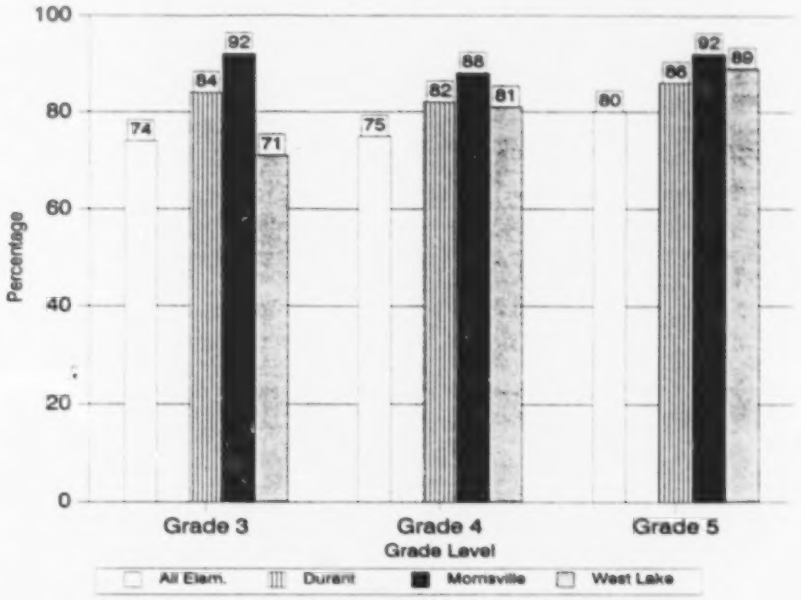


Figure 3. Percentage of Students Scoring at Level III or Level IV on the Math Section of the EOG for Spring 1995

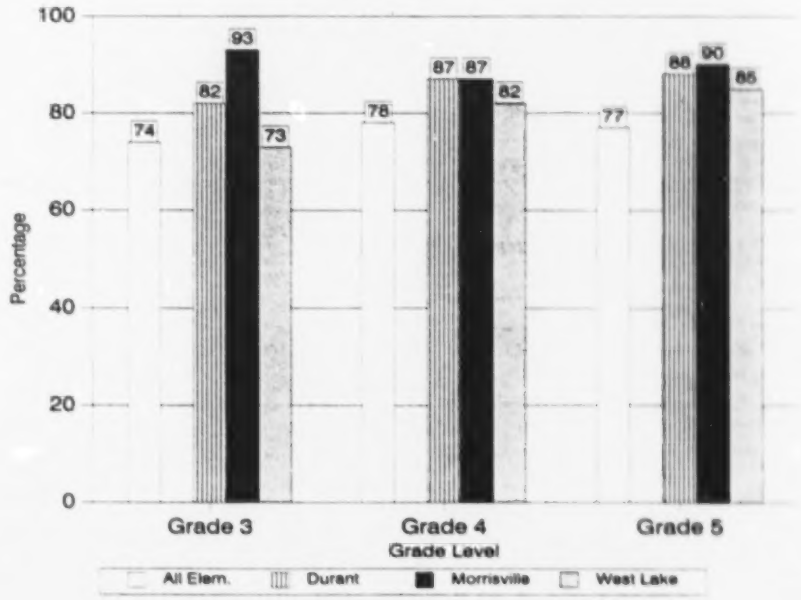


Figure 4 reveals basically the same pattern over the last three years, with the year-round schools generally exceeding the district percentages of students in Levels III or IV. If we examine the cohort of students who moved from 3rd grade in 1993 to 4th grade in 1994 and 5th grade in 1995, the year-round schools have remained fairly stable, while WCPSS overall has increased 6% in reading and 5% in math. The stable pattern at year-round schools probably reflects the fact that a high percentage of students in year-round schools scored at Levels III or IV initially (81%-91%). It probably does not reflect changes in students enrolled each year, because year-round schools have not experienced much attrition in their student bodies.

Figure 4. Percentage of Students Scoring at Level III or Level IV on the Reading and Math Sections of the EOG for 1993, 1994, and 1995

School	Grade	Reading			Math		
		1993	1994	1995	1993	1994	1995
All Elementary Schools	3	74	71	74	72	72	74
	4	74	77	75	77	78	78
	5	75	77	80	74	77	77
Durant Elementary	3	86	78	84	81	79	82
	4	68	86	82	79	86	87
	5	83	77	86	81	83	88
Morrisville Elementary	3	91	83	92	91	91	93
	4	77	89	88	90	92	87
	5	74	92	92	73	88	90
West Lake Elementary	3	90	78	71	89	78	73
	4	88	80	81	83	82	82
	5	82	91	89	85	88	85

Scale score changes are a more sensitive measure of growth across years. Figure 5 shows the average EOG scale scores for all elementary schools and the multi-track schools for 1993-95. Scale scores on a statewide basis generally increase by three to seven points by grade. In WCPSS, *students' scale scores from 3rd to 5th grade increased almost the same amount in the multi-track schools as the average for all elementary schools.* Specifically, the elementary students' average scale scores from 3rd to 5th grade (1993-95):

- Increased for the district by 9 points in reading and 14 points in math; and
- Increased in multi-track schools by an average of 8 points in reading and 14 points in math, and always remained higher than the scale score average across all elementary schools.

Figure 5. Spring 1993, 1994, and 1995 Scale Scores for Reading and Math

School	Grade	Reading			Math		
		1993	1994	1995	1993	1994	1995
All Elementary Schools	3	146	146	147	144	143	144
	4	151	151	151	150	151	151
	5	154	155	155	157	158	158
Durant Elementary	3	149	148	149	145	145	146
	4	151	153	153	150	153	153
	5	157	155	157	158	158	161
Morrisville Elementary	3	150	150	152	149	149	149
	4	153	154	154	154	155	154
	5	155	158	159	156	161	162
West Lake Elementary	3	149	147	146	147	145	144
	4	153	152	152	152	152	152
	5	156	157	157	158	160	160

EFFECTIVENESS INDEX

The Effectiveness Index is a method of comparing the achievement of students in a particular school with the achievement of similar students across the entire school district. Variables considered in the calculations include the prior year's achievement level of each student, each student's special education status, and a measure of socio-economic status. Achievement test scale scores are analyzed for all of the students in a school who take the EOG test and who also have an achievement or aptitude test score from the previous year. If schoolwide performance is similar to the performance in approximately two thirds of the other schools, the performance is labeled "Expected". If performance varies significantly, the performance is labeled "Below" or "Above" to indicate that achievement on the EOG tests was below or above what might be expected based upon the characteristics of the students in the school. Starting in the 1993-94 school year, the Effectiveness Index was based on the EOG rather than the California Achievement Test which is no longer administered.

Overall, year-round elementary students are performing about the same as similar students in other schools, with 14 of 18 ratings on the Effectiveness Index in 1994-95 at or above expected levels. Achievement performance by school varied somewhat as seen in Figure 6. At Morrisville, which has been operating the longest, student performance has remained basically the same since 1992-93, with students generally scoring at or above expected levels. Durant Road's performance has improved slightly since its first year (1992-93), with all ratings now at expected levels. West Lake's ratings, however, declined between 1993-94 and 1994-95, going from only one "Below" rating to four "Below" ratings. Reasons for this change may or may not relate to the year-round calendar and will be explored.

Figure 6. Effectiveness Index for the Multi-Track Year-Round Schools

School	Grade	1992-93		1993-94		1994-95	
		Reading	Math	Reading	Math	Reading	Math
Durant Road Elementary	3	Expected	Expected	Expected	Expected	Expected	Expected
	4	Below	Below	Expected	Expected	Expected	Expected
	5	Expected	Expected	Expected	Expected	Expected	Expected
Morrisville Elementary	3	Expected	Expected	Expected	Above	Above	Expected
	4	Expected	Above	Expected	Expected	Expected	Expected
	5	Expected	Expected	Expected	Expected	Expected	Expected
West Lake Elementary	3	Expected	Below	Below	Expected	Below	Below
	4	Expected	Expected	Expected	Expected	Below	Below
	5	Expected	Expected	Expected	Expected	Expected	Expected

ATTENDANCE

Attendance rates are often cited as an advantage when comparing year-round schools to traditional ones. Multi-track schools had slightly higher attendance rates (an average of 0.7% higher) than the district average for elementary schools. (See Figure 7.)

These findings suggest that although multi-track students are in class during part of the summer months, *their attendance rates were slightly better than the traditional schools*. The 1992-93 school year showed similar patterns.

Figure 7. Attendance Rates for 1993-94 and 1994-95

Schools	1993-94	1994-95
All Elementary Schools	**95.9%**	**96.0%**
Durant Road Elementary	96.1%	96.5%
Morrisville Elementary	96.7%	97.0%
West Lake Elementary	96.4%	96.5%

PARENT AND STAFF ATTITUDES

Staff and parent surveys were used to assess school climate.

Compared to the elementary school district average:

- Staff at multi-track schools indicated a more positive attitude on 15 of 18 survey questions related to school climate and effectiveness.
- Parents at multi-track schools indicated a more positive attitude on 14 of 15 survey questions

related to school climate and effectiveness.

Compared to last year, staff results were stable on most items but fluctuated by 10% or more on 11 of 48 comparisons by school item (5 items increased and 6 decreased). Parent results were even more stable across years (1 of 33 decreased by 10%). (See Attachments 1 and 2 for more details.)

Figures 8 and 9 show the percentage of staff and parents who agreed or strongly agreed to survey items selected to compare the climate and effectiveness of the year-round schools with the elementary school district average.[1] Results indicate that both staff and parent responses were more positive for the multi-track schools than for the elementary school average.

Figure 8. Percentage of Staff Who Answered Agree or Strongly Agree to School Climate Items

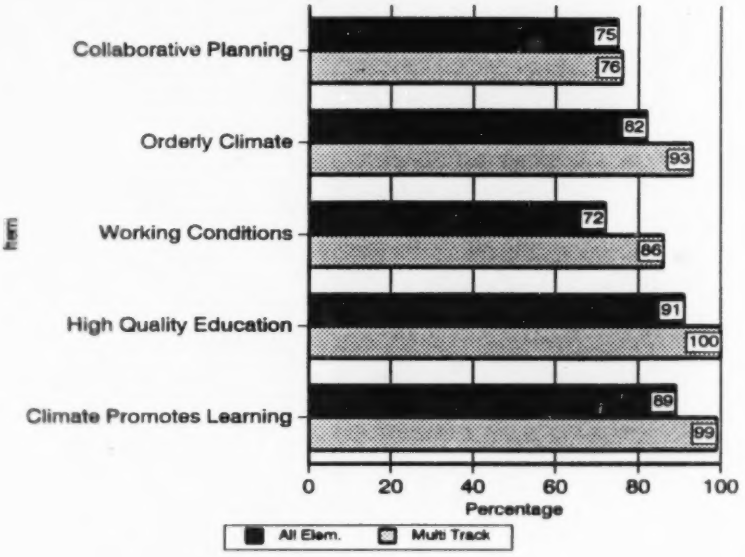
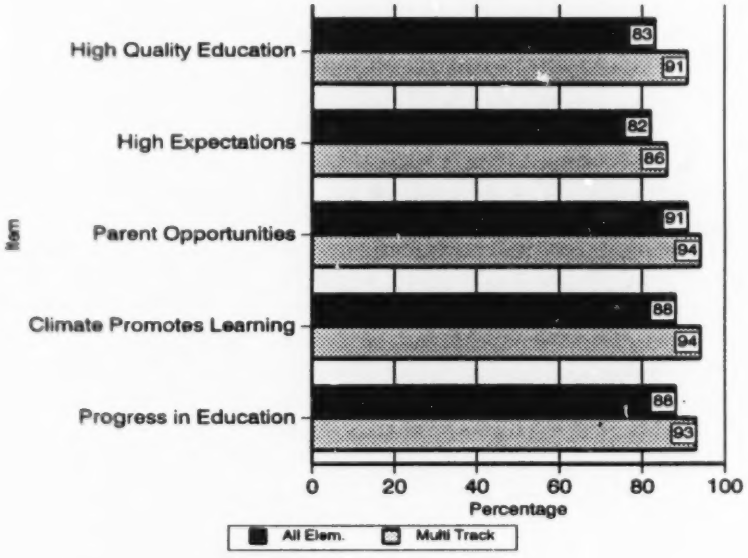


Figure 9. Percentage of Parents Who Answered Agree or Strongly Agree to School Climate Items



[1] Items in Figure 8 correspond to question numbers 3, 4, 7, 12, and 15 (starting from the top of the bar graph) on Attachment 1. Items in Figure 9 correspond to question numbers 4, 5, 10, 13, and 15 on Attachment 2.

ATTACHMENT 1

Percentage of Staff Who Answered Agree or Strongly Agree to School Related Items for 1993-94 and 1994-95

Survey Item	All Elem.		Durant Road		Morrisville		West Lake	
	1994	1995	1994	1995	1994	1995	1994	1995
1. Building facilities at my school are adequate to support the instructional program.	60	64	87	95	83	74	94	88
2. My school has adequate instructional supplies to support the instructional program.	69	71	87	87	82	78	82	76
3. There is collaborative planning and decision making in my school.	75	75	80	76	67	72	81	80
4. Our school has an orderly and purposeful climate.	82	82	90	97	92	91	98	93
5. Our school building is well maintained.	76	70	87	46	94	96	91	64
6. This school is a safe place to work.	87	90	100	97	100	100	100	95
7. Our school maintains working conditions that attract and retain competent employees.	74	72	83	80	88	89	87	87
8. I feel encouraged to do things differently when I believe these changes will improve my school.	81	80	90	89	76	75	88	80
9. I have been active in the school improvement process at this school.	87	89	100	86	71	89	91	80
10. Training at our school supports implementation of our school improvement plan.	87	85	93	97	88	89	80	85
11. Our school improvement process will have a positive impact.	72	74	90	71	71	74	89	83
12. My school provides a high quality educational program.	91	91	90	100	98	100	96	100
13. The staff at my school have high expectations for all children.	84	84	97	97	94	95	90	85
14. This school promotes understanding among students from a variety of backgrounds.	NA	82	NA	89	NA	81	NA	73
15. The climate at this school promotes children's learning.	NA	89	NA	97	NA	100	NA	100
16. Students who threaten or fight with teachers are not a serious problem at this school.	72	71	93	92	77	88	92	82
17. Students who threaten or fight with other students are not a serious problem at this school.	62	62	80	87	68	81	88	82
18. My school provides sufficient opportunities for parental involvement.	94	94	97	100	100	100	90	100

Note: Highlighted a percent differences from previous year of at least 10%

ATTACHMENT 2

Percentage of Parents Who Answered Agree or Strongly Agree to School Related Items for 1993-94 and 1994-95

Survey Item	All Elem.		Durant Road		Morrisville		West Lake	
	1994	1995	1994	1995	1994	1995	1994	1995
1. My child's school is a safe place to learn.	91	92	99	98	97	98	97	97
2. My child's school grounds are clean and attractive.	90	89	97	90	98	95	93	83
3. My child's school building is clean and attractive.	NA	91	NA	99	NA	99	NA	98
4. My child's school provides a high quality educational program.	83	83	93	93	91	89	92	91
5. The staff at my child's school have high expectations for my child.	83	82	92	90	88	85	88	85
6. My child is academically challenged in all classes.	69	69	80	77	75	70	75	71
7. It is easy to contact the staff at my child's school.	90	89	90	92	94	92	88	91
8. When I have concern about my child, I can count on the school for support.	80	79	83	83	84	80	84	84
9. I feel comfortable visiting my child's school.	95	94	97	95	99	97	92	96
10. My child's school provides sufficient opportunities for parental involvement.	94	91	97	96	98	95	94	92
11. I am informed about my child's progress on a regular basis (in addition to report cards).	92	90	91	86	94	88	89	88
12. If I call the school, I receive prompt and courteous attention.	NA	87	NA	89	NA	91	NA	92
13. The climate at my child's school promotes learning.	NA	88	NA	96	NA	93	NA	93
14. Students at my child's school are well behaved overall.	NA	69	NA	83	NA	83	NA	79
15. I have seen progress in my child's education in the past 12 months.	NA	88	NA	93	NA	93	NA	92

Note: Highlighted are percent changes from the previous year of at least 10%